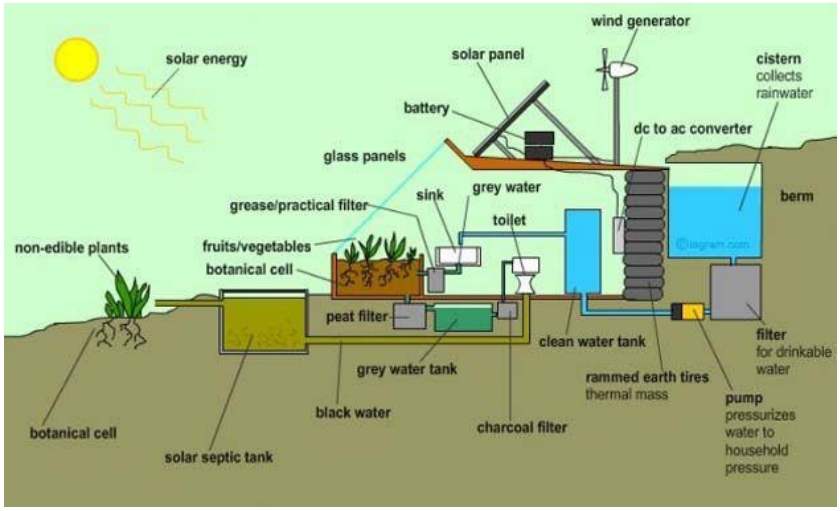
THE SUSTAINABLE RURAL SCHOOL *EARTHSHIP* IN URUGUAY

In Uruguay the Tagma Organization has built a sustainable rural school, for public education in the department of Canelones, adopting the methodology of the Earthship Biotecture Company based in New-Mexico (United States).



The school is a building of 270 square meters made up with a 60% of recycled materials (tires, plastic and glass bottles, aluminium cans and cardboard) and 40% of traditional materials.

The Tagma webpage *La Escuela Sustentable* presents the main features of this innovative structure and the photos of this article. The adopted method aims at making the greater use of renewable energies (sun, water, wind and earth energy powers). For this purpose the building opens to the north, taking full advantage of the solar light and energy through a glazed corridor, which also enables the production of food through an interior vegetable garden. The solar energy is captured by photovoltaic panels and stored by an energy cell.

Towards the south the building is closed with a thick wall made with tires filled with sand and earth reinforcing the back of the building. This structure, besides increasing the thermal inertia and stimulating the organic food production indoor, also allows to cover the system of reserve and collection of rainwater from the roof. It enables in addition to install a sequence of pipes that in the summer generate a cross circulation of fresh air through the rooms. In winter, the pipes can be closed and the heat caused by the greenhouse effect of the north corridor allows to air-conditioning the rooms.

In addition to being autonomous in its energy consumption and boosting organic food production in its interior, the school uses rainwater for human consumption, hand washing, irrigation of orchards and for cisterns with a sewage treatment process that includes a septic tank also created with recycled materials (tractor tires) and a wetland outside the building.

The constructive strategy adopted by the Tagma Organization, besides ensuring the construction of the school in the very short period of seven weeks, has allowed to transfer the knowledge on the method adopted to the local community throughout the whole process of completion

of the works. About 200 people, volunteers and students participated in the construction.

During the construction of the school an *Earthship Academy* was realized, coordinated by the creator of the method Michael Reynolds, to build capacities for 100 students from over the world in the development of this innovative construction technique.

Since 45 years the *Earthship Biotecture* Company created by Michael Reynolds is devoted to the construction of self-sufficient house buildings, designed in order to generate electricity, heating, running water, organic food and recycling for the building process diverse waste of the territory as tires, cans and bottles. Buildings made with the *Earthship* methodology can be found in different countries as Sierra Leone, Australia, United Kingdom, Belgium, Spain, France, the Netherlands, Canada, the United States, Guatemala, Haiti, Argentina and Mexico.

The Sustainable *Earthship* School of Uruguay, built by the Tagma Organization, has been declared of a national interest by the Ministry of Territorial Planning and Environment, the Ministry of Education and Culture of Uruguay and the Faculty of Architecture of the National University.

To know more

Tagma Organization website

La Escuela Sustentable press review

La Escuela Sustentable in Facebook

Earthship Biotecture website

Construction materials in Earthship Biotecture

Earthship Academy Labs

Article in Ecoinventos.com

Video in Ecoinventos.com

Article in plataformaarquitectura.cl

Article in republica.com.yu

Article in construirtv.com